

Heart of the

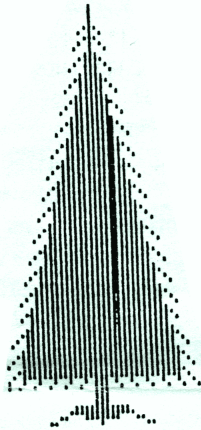
Bluegrass

BYTEMONGER

Lexington, Kentucky

December, 1987

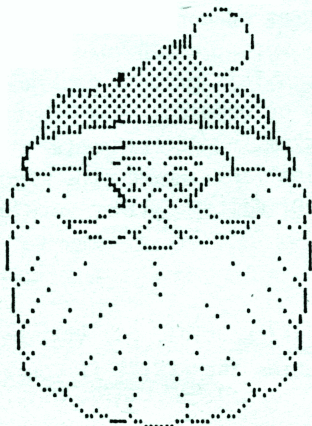
NUMBER CRUNCHING



CHRISTMAS AND REFLECTIONS

This is the last month for the slate of officers who have worked with you to give the Bluegrass Computer Society a banner year of interesting programs, super newsletters, and lots of club participation. It has certainly been an enjoyable experience for all of us!

We all wish you the best for the holidays, and the New Year.! MERRY CHRISTMAS!



The December meeting of the BLUEGRASS 99 COMPUTER SOCIETY, INC. will be held on Thursday, December 4, 1987, beginning promptly at 7:00 P.M. at the KENTUCKY UTILITIES OPERATIONS CENTER, 500 Stone Road, Lexington, Kentucky. The library will be open at 6:30 P.M. and will be open again during the break and after the meeting.

We will have a mixed bag of program goodies. First, Bill Woodruff will demonstrate Side*Print. This is an excellent utility for printing Multiplan spreadsheets. A spreadsheet of almost any size will be wider than standard 8 1/2 by 11 inch paper and the use of condensed printing is not a satisfactory solution: Even with condensed printing, a spreadsheet usually exceeds the width of the paper and printing at more than 12 CPI becomes increasingly unreadable. For those of us who do not have a 120 column printer, Side*Print neatly solves the problem by printing the spreadsheet longways on the sheet.

Following Bill will be Wes Richardson who will demonstrate and discuss his Count 99999 programs. Wes has written programs in several different languages which count to a specified number. He is then able to compare the time each language takes to reach the number. His results appear in an extensive article elsewhere in this newsletter. In this regard, Wes's practice and theory of programming is an excellent study for both the novice and the advanced programmer.

Rounding out the evening will be a video of Fractals. This video is in color and explains Fractals and displays them. It will prove to be not only instructive but also a highly entertaining.

REPORT OF NOMINATING COMMITTEE

The nominating committee filed its report at the November meeting. Its recommendation for officers for 1987 are as follows:

WES RICHARDSON
DORIS SETTLES
EDWARD POWELL
ROBERT KRAUSE

President
Vice-President
Secretary
Treasurer

The choices of the nominating committee are excellent and our thanks to its members, Homer Crabtree, Chairman, Richard Hubbard and Bruce Bottom. The election of officers will be held at the December meeting.

COUNT 99999

by WESLEY R. RICHARDSON
BLUEGRASS 99 COMPUTER SOCIETY, INC.

This month's program listings should have something for everyone. The program COUNT 99999 does just that, counts from 00,000 to 99,999 and displays it on the screen as it goes. As much as is possible, I have tried to use the same algorithm for all of the languages, so a comparison of speed and program statements could be made. The TI-99/4A now has several languages available to program in, including BASIC, EXTENDED BASIC, 99 FORTRAN, UCSD PASCAL, LOGO, PILOT, FORTH, c99, and 9900 ASSEMBLY. A comparison of the run times is shown below. Please keep in mind that the relative speeds shown apply only to this program and that different programs would have different relative times.

The languages which support interfacing with assembly are 99 FORTRAN, Extended BASIC, PASCAL, FORTH, and c99. This means that in an application where speed is important, you could write the speed limiting routines in assembly and yet have the advantage of ease of programming for the rest of the program in the language of your choice.

LANGUAGE	COUNT 99999 RUN TIME	RATIO
BASIC	1 HR 51 MIN 39.4 SEC	295.1
99 FORTRAN	0 HR 55 MIN 21.9 SEC	146.3
XBASIC	0 HR 44 MIN 13.1 SEC	116.9
PASCAL	0 HR 37 MIN 32.5 SEC	99.2
LOGO	0 HR 35 MIN 28.8 SEC	93.8
FORTH	0 HR 01 MIN 36.5 SEC	4.3
c99	0 HR 01 MIN 28.0 SEC	3.9
ASSEMBLY	0 HR 00 MIN 22.7 SEC	1.0

PILOT

While PILOT has not been included as one of the program listings, I believe there are three versions of PILOT for the TI available. Perhaps someone could program COUNT 99999 in PILOT and send me a copy.

BASIC & EXTENDED BASIC

These languages are probably used by the greatest number of TI-99/4A programmers because of the ease of writing. In a speed contest, they are the slowest.

99 FORTRAN

FORTRAN on the TI-99/4A is the newest member of the programming family and has many advantages in formatting of the output and in data manipulation.

I did expect a faster running time, but this may have been due to the way in which I wrote the program. All functions of editing, compiling, linking, and running the program must be done from the 99 FORTRAN program environment. First EDIT the program, then SAVE it as 99999-H. COMPILE the program, giving DSK2.99999-H as the input file and DSK2.99999-I as the object file. Use either CRT or PIO as the listing file, or just press (enter). I used scratch disk as 2 and took no options. After compiling with no errors, select the LINK function and give DSK2.99999-I as the object file. For the second object file just press (enter). At SCAN LIBRARY ? put the FORTRAN LIBRARY DISK into one of the drives and answer Y and press (enter). After scanning press (enter) again and then select the SAVE function and save as file DSK2.99999-J. Then you can RUN the file, or later LOAD and then RUN the DSK2.99999-J file.

PASCAL

Very few people have the p-CODE card for the TI, and even fewer people write programs in PASCAL on the TI. PASCAL is very similar in structure to c99. The program is written as a TEXT file, and then is compiled to a CODE file to run or execute. Since COUNT uses the SUPPORT routines, it is necessary to copy the file SYSTEM.LIBRARY to the ED-FILR: disk both for the compiling, and to run the program. The SYSTEM.LIBRARY file can be T(ransfer) from the COMPILR: disk. After the program has run about 10 min, the screen will blank because no keys have been pressed. If you intend to have it count again, press Y to restore the screen, if you want it to stop after counting, press enter to restore the screen.

LOGO

Many people think of LOGO as being a kids language, yet in this case it runs faster than Extended BASIC and PASCAL. LOGO has many features such as the ability to test procedures by building from the bottom up, that is is very easy to write and debug. In design, LOGO and FORTH are very similar. In both languages you start defining simple procedures or words and then build on them by defining new words which use the previously defined words. This process continues until the final procedure or word does the function desired of the program. After entering the LOGO procedures definitions, save the PROCEDURES to disk. Give START as the calling word to start the program.

FORTH

To enter the FORTH routine, you will need -EDITOR as your load option and -PRINT if you are going to

list the screen. To run the program, you will need at least -TEXT to be loaded, then type 48 LOAD and the program will autostart. After COUNT 99999 runs, pressing N will exit the program, then type MON for the TI colorbars screen.

c99

To enter the c99 version of COUNT 99999, use the Editor/Assembler Editor to enter the program, and save it to disk as 99999;C Use E/A #5 to run the c99 compiler C99C and answer Y to the first two questions. Give DSK1.99999;C as the input file and DSK1.99999;S as the output file. (These can also be done from drive DSK2). Note that the file CONIO must be on DSK1 while compiling. After compiling with no errors, load the E/A Assembler and give DSK1.99999;S as the source code and DSK1.99999;0 as the object code for output. Do not take any options. After assembling with no errors, the program can be run. Use E/A #3 to LOAD AND RUN. First load DSK1.99999;0 then load DSK1.CSUP and then give START as the PROGRAM name to start it running. CSUP and CONIO are on the c99 disk. To change the program COUNT 99999 to PROGRAM format, you will need the E/A routine called SAVE and the c99 programs called C99PFI and C99PFF. Use E/A #3 and first load DSK1.C99PFI then load DSK1.99999;0 then load DSK1.CSUP then load DSK1.C99PFF then load DSK1.SAVE then press enter. Give SAVE as the PROGRAM name and DSK1.99999;V as the output filename. You will then be able to run 99999;V from E/A #5 without needing the other files.

TMS9900 ASSEMBLY

Assembly is the overall winner in terms of speed of execution. By specifying the workspace registers in the highspeed area at hex 8300, the program was speeded up by 3 seconds. Further speed improvements could be made by moving some of the code into this high speed area also. The statement COUNT ? YN could have been written with a shorter VMBW routine but I wanted to preserve the same methods used in the other languages. Use E/A Editor to enter the listing and then save as the file 99999-S for source. When assembling, be sure to use the R as an option and give 99999-0 as the object file for output. The program will then run from E/A #3 by loading 99999-0 and giving SFIRST as the program name. To convert this to PROGRAM image format, select E/A #3 and load 99999-0 then load SAVE and then press enter. Give SAVE as the program name and 99999-V as the output file. Then you can use E/A #5 to run the program 99999-V.

PROGRAM COUNT

```
C COUNT 99999 TI-99/4A 99 FORTRAN
C COUNT 99999-H SOURCE CODE
C COUNT 99999-I OBJECT CODE
C COUNT 99999-J EXECUTABLE CODE
C WESLEY R. RICHARDSON DEC 1987
C BLUEGRASS 99 COMPUTER SOCIETY, INC.
C 99 FORTRAN RUN TIME 55 MIN 21.9 SEC
  INTEGER V, W, X, Y, Z, YKEY, STAT
  CALL CLEAR
  YKEY=89
  DO WHILE (YKEY.EQ.89)
    WRITE(6,9100)
    STAT=0
    DO WHILE(STAT.EQ.0)
      CALL KEY(0,YKEY,STAT)
    ENDDO
    IF (YKEY.NE.89) THEN
      CALL EXIT
    ENDIF
    CALL CLEAR
    WRITE(6,9200)
    DO 2000 V=48,57
      WRITE(6,9300) V
      DO 2000 W=48,57
        WRITE(6,9400) W
        DO 2000 X=48,57
          WRITE(6,9500) X
          DO 2000 Y=48,57
            WRITE(6,9600) Y
            DO 2000 Z=48,57
              WRITE(6,9700) Z
            2000 CONTINUE
          ENDDO
        9100 FORMAT('+',M16.11,'COUNT ? YN')
        9200 FORMAT('+',M12.15,',')
        9300 FORMAT('+',M12.13,CN)
        9400 FORMAT('+',M12.14,CN)
        9500 FORMAT('+',M12.16,CN)
        9600 FORMAT('+',M12.17,CN)
        9700 FORMAT('+',M12.18,CN)
      ENDDO
    ENDDO
  END
```

Other COUNT programs on following pages.

Answers to questions which appeared in the November, 1987 BYTEMONGER:

- 2) Buy 5 Fairware programs at \$10.00 each, 1 module for \$3.00, and 94 floppy disks at \$0.50 each, and you will have spent \$100.00 and bought 100 items.
- 3) Draw a five pointed star without lifting your pencil. Put a tree at each corner and at each interior line intersection and then you will have 10 trees in 5 rows with 4 trees per row

```

100 REM 99999-X
110 REM TI-99/4A BASIC OR EXTENDED BASIC
120 REM WESLEY R. RICHARDSON DEC 1987
130 REM BLUEGRASS 99 COMPUTER SOCIETY, I
    NC.
140 REM BASIC RUN TIME 1 HR 51 MIN 39.4
    SEC
150 REM EXTENDED BASIC RUN TIME 44 MIN 1
    3.1 SEC
160 CALL CLEAR
170 CALL HCHAR(16,11,67)
180 CALL HCHAR(16,12,79)
190 CALL HCHAR(16,13,85)
200 CALL HCHAR(16,14,78)
210 CALL HCHAR(16,15,84)
220 CALL HCHAR(16,17,63)
230 CALL HCHAR(16,19,89)
240 CALL HCHAR(16,20,78)
250 CALL KEY(0,K,S)
260 IF S=0 THEN 250
270 IF K<>89 THEN 460
280 CALL CLEAR
290 CALL HCHAR(12,15,44)
300 FOR V=48 TO 57
310 CALL HCHAR(12,13,V)
320 FOR W=48 TO 57
330 CALL HCHAR(12,14,W)
340 FOR X=48 TO 57
350 CALL HCHAR(12,16,X)
360 FOR Y=48 TO 57
370 CALL HCHAR(12,17,Y)
380 FOR Z=48 TO 57
390 CALL HCHAR(12,18,Z)
400 NEXT Z
410 NEXT Y
420 NEXT X
430 NEXT W
440 NEXT V
450 GOTO 170
460 END

```

SCR #48

```

0 ( 99999-F TI-99/4A FORTH -TEXT )
1 ( WESLEY R. RICHARDSON DEC 1987 )
2 ( BLUEGRASS 99 COMPUTER SOCIETY, INC. )
3 ( FORTH RUN TIME 1 MIN 36.5 SEC )
4 BASE->R DECIMAL : IT ;
5 : ZL 58 48 DO 18 12 GOTOXY I EMIT LOOP ;
6 : YL 58 48 DO 17 12 GOTOXY I EMIT ZL LOOP ;
7 : XL 58 48 DO 16 12 GOTOXY I EMIT YL LOOP ;
8 : WL 58 48 DO 14 12 GOTOXY I EMIT XL LOOP ;
9 : VL 58 48 DO 13 12 GOTOXY I EMIT WL LOOP ;
10 : CNT 11 16 GOTOXY 67 EMIT 79 EMIT 85 EMIT
11 78 EMIT 84 EMIT 32 EMIT 63 EMIT 32 EMIT
12 89 EMIT 78 EMIT KEY ;
13 : CNTY CNT 89 = IF CLS 15 12 GOTOXY 44 EMIT
14 VL ELSE QUIT ENDIF ;
15 : START CLS BEGIN CNTY AGAIN ; START R->BASE

```

PROCEDURES

```

TO START
; P_99999
; TI - 99 / 4A LOGO PROCEDURE
; WESLEY R. RICHARDSON DEC 1987
; BLUEGRASS 99 COMPUTER SOCIETY, INC.
; LOGO RUN TIME 35 MIN 28.8 SEC
CS COUNT
END

TO COUNT
TEST CNT = "Y IFT CS PT 44 15 12 VL COU
NT IFF STOP
END

TO CNT
PT 67 11 16
PT 79 12 16
PT 85 13 16
PT 78 14 16
PT 84 15 16
PT 63 17 16
PT 89 19 16
PT 78 20 16
MAKE "K RC
OUTPUT :K
END

TO VL
MAKE "V 48
REPEAT 10 [PT :V 13 12 WL MAKE "V :V +
1 ]
END

TO WL
MAKE "W 48
REPEAT 10 [PT :W 14 12 XL MAKE "W :W +
1 ]
END

TO XL
MAKE "X 48
REPEAT 10 [PT :X 16 12 YL MAKE "X :X +
1 ]
END

TO YL
MAKE "Y 48
REPEAT 10 [PT :Y 17 12 ZL MAKE "Y :Y +
1 ]
END

TO ZL
MAKE "Z 48
REPEAT 10 [PT :Z 18 12 MAKE "Z :Z + 1 ]
END

```

```

(* COUNT 99999-P TI-99/4A PASCAL *)
(* WESLEY R. RICHARDSON DEC 1987 *)
(* BLUEGRASS 99 COMPUTER SOCIETY, INC *)
(* PASCAL RUN TIME 37 MIN 32.5 SEC *)
PROGRAM COUNT;
USES SUPPORT;
VAR V, W, X, Y, Z : INTEGER;
    YKEY           : CHAR;
BEGIN
  PAGE(OUTPUT);
  YKEY := 'Y';
  WHILE YKEY = 'Y' DO
    BEGIN
      GOTOXY(11,16);
      WRITE(CHR(67));
      WRITE(CHR(79));
      WRITE(CHR(85));
      WRITE(CHR(78));
      WRITE(CHR(84));
      WRITE(CHR(32));
      WRITE(CHR(63));
      WRITE(CHR(32));
      WRITE(CHR(89));
      WRITE(CHR(78));
      READ(YKEY);
      IF YKEY <> 'Y' THEN EXIT(COUNT);
      PAGE(OUTPUT);
      GOTOXY(15,12);
      WRITE(CHR(44));
      FOR V:= 48 TO 57 DO
        BEGIN
          GOTOXY(13,12);
          WRITE(CHR(V));
          FOR W:= 48 TO 57 DO
            BEGIN
              GOTOXY(14,12);
              WRITE(CHR(W));
              FOR X:= 48 TO 57 DO
                BEGIN
                  GOTOXY(16,12);
                  WRITE(CHR(X));
                  FOR Y:= 48 TO 57 DO
                    BEGIN
                      GOTOXY(17,12);
                      WRITE(CHR(Y));
                      FOR Z:= 48 TO 57 DO
                        BEGIN
                          GOTOXY(18,12);
                          WRITE(CHR(Z))
                        END;
                      END;
                    END;
                  END;
                END;
              END;
            END;
          END;
        END;
      END;
    END;
  END;
END.

```

```

/* COUNT 99999;C TI-99/4A c99 */
/* WESLEY R. RICHARDSON DEC 1987 */
/* BLUEGRASS 99 COMPUTER SOCIETY, INC */
/* c99 RUN TIME 1 MIN 28.0 SEC */

#include dsk1.conio

main(){ /* COUNT */

  int v,w,x,y,z;
  char ykey;

  putchar(FF);
  ykey=89;
  while(ykey=89)
  { locate(16,11);
    putchar(67);
    putchar(79);
    putchar(85);
    putchar(78);
    putchar(84);
    putchar(32);
    putchar(63);
    putchar(32);
    putchar(89);
    putchar(78);
    ykey=getchar();
    if (ykey!=89)exit(7);
    putchar(FF);
    locate(12,15);
    putchar(44);
    for(v=48;v<=57;v++)
    { locate(12,13);
      putchar(v);
      for(w=48;w<=57;w++)
      { locate(12,14);
        putchar(w);
        for(x=48;x<=57;x++)
        { locate(12,16);
          putchar(x);
          for(y=48;y<=57;y++)
          { locate(12,17);
            putchar(y);
            for(z=48;z<=57;z++)
            { locate(12,18);
              putchar(z);
            }
          }
        }
      }
    }
  }
} /* end COUNT */

```

```

*****
*
* 99999-S SOURCE CODE TI-99/4A
* 99999-O OBJECT CODE ASSEMBLY
* 99999-V E/A #5 RUN PROGRAM FILE
*
* WESLEY R. RICHARDSON DEC 1987
* BLUEGRASS 99 COMPUTER SOCIETY, INC.
* ASSEMBLY RUN TIME 0 MIN 22.7 SEC
*
* BASED ON A PROGRAM BY S. PEACOCK
* WHICH APPEARED IN CHICAGO TIMES
* SUPER SUMMER ISSUE AUGUST 31, 1987
*
*****
      DEF  SFIRST,SLAST,SLOAD
      REF  VSBW      SINGLE BYTE WRITE
      REF  KSCAN     KEY SCAN
*
ST      EQU  >837C    STATUS AT >837C
KEYV    EQU  >8375    KEY VALUE
YES     BYTE >59     YES KEY VALUE
*
SFIRST  LWPI >8300    HIGH SPEED AREA
SLOAD   EQU  SFIRST
      LI  R3,>0030    CHAR 48 OR DEC 0
      LI  R4,>003A    CHAR 58 OR   :
*
      BL  @CLS       CLEAR SCREEN
*
RSTRT   LI  R0,490    ROW 16 COL 11
      LI  R1,>4300    CHAR 67 OR C
      BLWP @VSBW     WRITE C
*
      LI  R0,491    ROW 16 COL 12
      LI  R1,>4F00    CHAR 79 OR 0
      BLWP @VSBW     WRITE 0
*
      LI  R0,492    ROW 16 COL 13
      LI  R1,>5500    CHAR 85 OR U
      BLWP @VSBW     WRITE U
*
      LI  R0,493    ROW 16 COL 14
      LI  R1,>4E00    CHAR 78 OR N
      BLWP @VSBW     WRITE N
*
      LI  R0,494    ROW 16 COL 15
      LI  R1,>5400    CHAR 84 OR T
      BLWP @VSBW     WRITE T
*
      LI  R0,496    ROW 16 COL 17
      LI  R1,>3F00    CHAR 63 OR ?
      BLWP @VSBW     WRITE ?
*
      LI  R0,498    ROW 16 COL 19
      LI  R1,>5900    CHAR 89 OR Y
      BLWP @VSBW     WRITE Y

```

```

*
LI  R0,499    ROW 16 COL 20
LI  R1,>4E00    CHAR 78 OR N
BLWP @VSBW    WRITE N
*****
SCAN  CLR  @ST      CLEAR STATUS
      BLWP @KSCAN    KEYBOARD SCAN
      MOVB @ST,@ST    KEY PRESSED?
      JEQ  SCAN      KEY NOT PRESSED
      CB   @KEYV,@YES  KEY = Y ?
      JEQ  COUNT
      BLWP @>0000    GOTO COLORBAR
*****
COUNT BL  @CLS     CLEAR SCREEN
*
LI  R0,366
LI  R1,>2C00    CHAR 44 OR COMMA
BLWP @VSBW    WRITE COMMA
*
MOV  R3,R5      R5=48
VL   LI  R0,364    ROW 12 COL 13
      MOV  R5,R1
      SWPB R1
      BLWP @VSBW    WRITE 10,000'S
*
MOV  R3,R6      R6=48
WL   LI  R0,365    ROW 12 COL 14
      MOV  R6,R1
      SWPB R1
      BLWP @VSBW    WRITE 1,000'S
*
MOV  R3,R7      R7=48
XL   LI  R0,367    ROW 12 COL 16
      MOV  R7,R1
      SWPB R1
      BLWP @VSBW    WRITE 100'S PLACE
*
MOV  R3,R8      R8=48
YL   LI  R0,368    ROW 12 COL 17
      MOV  R8,R1
      SWPB R1
      BLWP @VSBW    WRITE 10'S PLACE
*
MOV  R3,R9      R9=48
ZL   LI  R0,369    ROW 12 COL 18
      MOV  R9,R1
      SWPB R1
      BLWP @VSBW    WRITE 1'S PLACE
      INC  R9
      MOV  R9,R2
      S    R4,R2      ZL LOOP END?
      JLT  ZL         DO AGAIN
*
      INC  R8
      MOV  R8,R2
      S    R4,R2      YL LOOP END?
      JLT  YL         DO AGAIN

```

```

*
INC R7
MOV R7,R2
S R4,R2      XL LOOP END?
JLT XL       DO AGAIN

*
INC R6
MOV R6,R2
S R4,R2      WL LOOP END?
JLT WL       DO AGAIN

*
INC R5
MOV R5,R2
S R4,R2      VL LOOP END?
JLT VL       DO AGAIN

*
B @RSTRT     TO RESTART

*****
CLS LI R1,>2000 SPACE CHAR 32
CLR R0       SET R0 = 0
CLS1 BLWP @VSBW WRITE SPACE
INC R0       NEXT SCREEN PLACE
CI R0,>0300
JNE CLS1
RT

*
SLAST END

```

BLUEGRASS6 DISK FILE LISTINGS

```

!README881 BLUEGRASS6 FILE LISTING
99999-DOC^ COUNT 99999 DOCUMENTATION
99999-F^^^ COUNT 99999 FORTH listing
99999-H^^^ COUNT 99999 99FORTHAN SOURCE CODE
99999-I^^^ COUNT 99999 99FORTHAN OBJECT CODE
99999-J^^^ COUNT 99999 99FORTHAN EXECUTABLE
99999-O^^^ COUNT 99999 E/A#3 SFIRST starts
99999-P^^^ COUNT 99999 PASCAL listing
99999-S^^^ COUNT 99999 E/A SOURCE CODE
99999-V^^^ COUNT 99999 E/A#5 PROGRAM
99999-X^^^ COUNT 99999 BASIC, XBASIC
99999;C^^^ COUNT 99999 c99 PROGRAM
99999;O^^^ COUNT 99999 c99 E/A#3 needs CSUP
99999;S^^^ COUNT 99999 c99 SOURCE CODE
99999;V^^^ COUNT 99999 c99 E/A#5 PROGRAM
C99PFF^^^^ c99 supports 99999;0 to 99999;V
C99PFI^^^^ c99 supports 99999;0 to 99999;V
CONIO^^^^^ c99 supports 99999;C to 99999;S
CSUP^^^^^^ c99 supports 99999;S to 99999;0
P_99999^^^ COUNT 99999 LOGO START starts it
P_99999-L^ COUNT 99999 LOGO listing
SAVE^^^^^^ E/A SAVE convert E/A#3 TO E/A#5

```

The Paper Library

by Ed Powell
BLUEGRASS 99 COMPUTER SOCIETY, INC.

TAKE CONTROL! George Stiffen of the LA99ER'S has written a comprehensive article on where and what to get, to start controlling your home appliances and lights through the use of the X-10 Power House Controller and your TI. He provides some analysis of the products and the addresses of the suppliers. If you are interested in this article it appears in the Aug.87 issue of Topic 49 ER'S.

Jim McLaren of the Sudbury 99ER'S notes that owners of the Horizon Ramdisk with 256k may notice their ramdisk is not powered up after short periods of nonuse. Jim relates that Bob Boone says this problem is caused by the current drain of the extra memory chips and the slow charge rate set by the original 270 ohm charge rate resistor. Changing the 270 ohm resistor to a lesser value (33 to 100 ohms) should cure the problem. He also talked to John Johnson who told him that the problem could be solved very simply by removing the resistor from the negative side of the battery pack.

Jim also noted that new batteries are not charged and might cause some loading problems. Here are two easy ways to speak a new language: In the Sept 87 issue of ROM Newsletter, Earl Raguse takes you word by word, key press by key press into the world of Forth. His instructions are so straight forward and simple that I may even try to learn Forth. His article is titled "GETTING STARTED IN FORTH."

In the June issue of PUG Peripheral, Fred and Amy Mackey take the same easy approach to running assembler language programs. The article is "HOW TO TYPE IN AND RUN ASSEMBLY PROGRAMS (Without Learning how to Program in Assembly Language.)"

- CALL WAITING -

By Mel Myhre

I use the following and it has always worked for me: Preface the number with "1170,". The "1170" tells the phone company computer to turn off the call waiting and any one who calls the number will get a busy signal. The comma is a pause for any Hayes compatible modem to give the phone company computer time to react and stabilize the line. Try "1170" manually and you will hear approximately 3 tone bursts and then a normal dial tone after a slight pause. Call waiting is restored as soon as the present connection/call is terminated by the phone company computer so it must be re-accomplished for every number dialed. The Phone Files I use are all prefaced by "1170,". I travel extensively and it has always worked for me in the US (they don't have such things overseas yet).

PHOTO DIGITIZING SERVICE

CONVERSION PROCEDURE IF YOU WOULD LIKE TO HAVE YOUR PHOTOGRAPH, SCHEMATIC, ARTWORK OR OTHER DOCUMENT CONVERTED TO A RUN LENGTH ENCODED (RLE) GRAPHIC FORMAT FILE WHICH IS READABLE ON-LINE BY COMPUSEVE'S VIDEOTEX

1) CHECK the Data Libraries for similar types of converted files to see if your material is capable of conversion, or read the text file in data library zero (DL0) entitled, "YESRLE.T1"

2) NOTIFY the On-Line Picture Support Forum Sysops of your intent to send material to be converted. Indicate the type of material you will be sending (i.e. photographs, artwork, etc.).

3) ON THE BACK of each source document, legibly PRINT your name and CompuServe ID number. EMS will NOT convert any source document with a copyright mark unless accompanied by a statement insuring that there is no such infringement. EMS will not convert any photograph the clearly printed name, CompuServe PPN or ID number and signature of the person depicted in said photograph on its reverse side. EMS will not be held responsible for mis-labeled photographs.

5) OBSCENE or pornographic material will not be converted by EMS. The final decision whether material should be converted or not will be made solely by EMS. Material deemed undesirable due to content will be returned to the submitter only if return postage has been provided. A service charge of one half the conversion fee will be assessed for processing and handling. If, in the estimation of EMS, submitted material can not be satisfactorily converted due to the quality of the source document, the source document will be returned upon the request of the submitter with EMS assuming the postage charges and with no processing or handling fee.

6) PACKAGE your source documents carefully for mailing. Insure their protection through the mail system by placing the documents between pieces of stiff paper or cardboard inside the envelope.

7) Mail the envelope with enough postage to cover first class mailing charges. If you wish to have your original source documents returned to you after processing be sure to enclose an adequate supply of stamps. EMS will provide return mailing envelopes.

8) INCLUDE the following type and amount of payment:

\$18.00 - 1st document

3.50 - each additional document

Payment may be in the form of personal check, money order or cashier's check, made payable to: Educational Media Services. Converted files will not be uploaded until personal checks have cleared your bank. NO credit card charges will be accepted. Charges to your CompuServe account or checkfree program cannot be made for this purpose. These fees reflect a tax-included charge. As you can see, there is an initial set-up fee for the first document. All other documents sent in the same group will be converted at the lower additional document fee. If, for any reason, additional artwork is requested or required, the submitter will be notified by an EasyPlex message prior

to the start of such additional work. Such additional artwork, beyond normal retouching and processing, will be at an additional charge agreed on before such work is technical staff, no charge will be made and all above conditions will apply for source material return.

9) MAIL your material to:
Educational Media Services
4442 South Goldenrod Road
Orlando, Florida 32812

EMS will notify you of the arrival of your material by EasyPlex.

10) Once the Forum staff has converted your material we will notify you by EasyPlex that the work is complete. We will upload each file one time to a forum of your choice. If that forum has a closed, or private membership it will be your responsibility to make arrangements with that forum's Sysop to grant our personnel membership to the forum long enough to upload the file(s).

(11) ONCE the forum staff has converted the submitter's documents, we will notify the user by EasyPlex that the work is ready to be picked up in the Picture Support Forum. If you do not have the capability of downloading and re-uploading the material to the forum of your choice, our staff will handle that for you on a one time basis. In other words, we will upload each file to one forum of your choice. If the forum of your choice is a closed forum, you will have to make arrangements with your Sysop for our membership long enough to upload the file.

(12) NOTE: CompuServe, EMS, nor any agency associated with this project is responsible for conversion of material deemed inappropriate by our staff. CompuServe, EMS and any other agency associated with this project is not liable for any misrepresentation of photographs or other source documents that are labeled and signed as to identity.

It should also be noted that while CompuServe is promoting this project within the network itself, they are not responsible for quality of conversion or satisfaction of user with the final product. All agreements between the submitter and EMS are strictly between the those two parties.

(13) NOTE: As you can see by the pricing structure, this system allows for multiple submissions in one envelope. In fact, it is encouraged. If a Sysop or /ther party wishes to collect several source documents for conversion, we will be glad to accommodate them as long as each document meets the standards listed in sections three, four and five, above. Payment shall be made by a single check, money order or to: Educational Media Services.

***** missing line *****

notified of its arrival at EMS and conversion. The return of documents will be made to the sender only. A notice of the sender's name and CompuServe PPN or ID number should be included with your material. NOTE: All converted files become the property of EMS 30 days after conversion and will be used as sample files in the GRAPHICS Forum. All submitters agree to this when submitting source documents for conversion, unless otherwise requested by submitter.

NOW -- Find a (CO)nference area, get your friends together, collect their pictures and mail them off to us.

LEAVER LABELER

By George A. Leaver, Jr.
BLUEGRASS 99 COMPUTER SOCIETY, INC.

The attached program is one I use when printing labels in bulk, postcards, or any printing I wish when I want to have the same text printed. Lines 110 - 160 and line 230 set up the program: Line 110 asks how many cards or labels. Line 140 tells you on the screen how many are left to print. Line 150 tells the number of the label being printed at that time. Line 160 reminds you of the number required. Line 130 keeps the screen clear except for the display in lines 140 - 160. I like this program because at any time I can tell at a glance what is happening.

```
60 REM EXTENDED BASIC
70 REM V.1.0
80 REM SET UP FOR PARALLEL PRINTER
90 REM CHANGE "PIO" TO "RS232" IN LINE 130 FOR SERIAL
PRINTER.
100 OPEN #1: "PIO"
110 INPUT "HOW MANY CARDS DO YOU WANT? ";NL
120 FOR R=0 TO NL-1
130 CALL CLEAR
140 DISPLAY AT (8,6): "# TO PRINT";R+1
150 DISPLAY AT (10,6): "PRINTING #";NL
160 DISPLAY AT (12,6): "# WANTED";NL
170 PRINT #1: CHR$(18);CHR$(15)
180 PRINT #1: "RETURN ADDRESS"
190 PRINT #1: "BULLITT AMATEUR RADIO SOCIETY"
200 PRINT #1: "POST OFFICE BOX 580"
210 PRINT #1: "SHEPHERDSVILLE, KY"
220 PRINT #1: "40165"
230 NEXT R
```

Of course, you must substitute your own text in lines 180-220. Note also can insert print codes specific for your printer in this line. If you do not place a semi-colon after line 170, as done here, the printer will advance one line. If you place a semi-colon after the line, the printer will receive the print command but will not space up any lines. This is a useful method of line spacing.

CONGRATULATIONS

BRILLIANT AUTHORS WIN MORE KUDOS

Ed Stamm's article in the Bytemonger on TI-Writer tips was reprinted in the December, 1987 issue of the Computer Shopper. Mark Schafer's article on "The Forgotten Edge Character" was reprinted in the LA-Topics. Both of these articles were excellent and deserve this recognition.

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TI-99/4A, P.E. Box w/SSSD Drive, 32K, Speech Syn., joysticks, cassetts, Programs, games & Books \$300.00. Randy Thomas 278-8988.

- Sloppy Floppies -

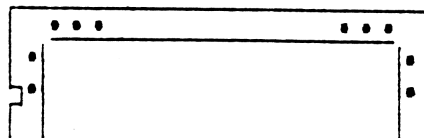
SLOPPY FLOPPYS RUIN COPY

According to a recent article in U.S.A. TODAY, all floppy disks are not created equal. A laboratory sampling test, conducted by Memory Control Technology Corp. - found a huge variation in price and quality of the "floppies" that store information for personal computers. And the company found that high prices don't guarantee high quality - even among big-name manufacturers. The lab said among its samples, one box of disks contained floppies with two 'cookies' - the magnetic part of the disk that stores data - where there should have been one. And one box of disks contained human hair.

Samples from only four companies - Fuji, Kodak, Memorex and TDK - had zero visible defects, the company said. The following table from the N.O.V.A. Users Group Newsletter helps identify some of these.

IDENTIFICATION OF 5 1/4" DISKS

From N.O.V.A. Users Group, Vancouver WA, Nov '86



SEAL	COMPANY	COMMENTS
• • •	Maxell	
Glue Seal	Memorex	Also Albinar (Best Co)
o o	Verbatim	Grid in circle
• •	Nashua	6 dots down each side
■ ■	BASF	
::::::::::	Elephant	
■■■■	3M	2 bars down each side
:::: ::::	Wabash	6 sets of 8 sqs. per side
■■■■■	FUJI	
■■■■■	Control Data	Storage Master
■■■■■	Syncom	3 bars down each side
• •	Certron	8 dots down each side
— —	KODAK	

BLUEGRASS 99 COMPUTER SOCIETY, INC.
P.O. BOX 11866
LEXINGTON, KENTUCKY 40578-1866



AIR MAIL

TI 99/4A UG U.K.

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